

REMARKS

The Examiner's Office Action dated on March 9, 2005 has been received and its contents carefully considered. Applicant acknowledges with appreciation the Examiner's indication in the Office Action that claims 10, 12 and 13 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Accordingly, claim 12 has been rewritten herein in independent form as new claim 14, and claims 10 and 13 have been rewritten as new claims 15 and 16, depending from claim 14 and incorporating the limitations of cancelled claims 10 and 13, respectively. It is therefore respectfully submitted that claims 14-16 are in condition for allowance

In this Amendment, claims 10, 12 and 13 have been cancelled without prejudice or waiver. Claims 14, 15, 16 and 17 are added. Claims 1, 5, 14 and 17 are independent. After entry of the foregoing amendments, claims 1-9, 11, 14-17 remain pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

Claims 1-6 and 11 were tentatively rejected under 35 U.S.C. 102(b) as allegedly anticipated by Fang *et al.* (U.S. Patent No. 6,727,854). For at least the following reasons, Applicant respectfully traverses these rejections.

It is well settled that a reference may anticipate a claim within the purview of 35 USC section 102 only if all the features and all the relationships recited in the claim are taught by the reference structure either by clear disclosure or under the principle of inherency.

Applicant's independent claim 1 is directed to a multi-frequency antenna with a first operational frequency and a second operational frequency for a portable electronic device. The multi-frequency antenna comprises an antenna body and a ground plane. The antenna body includes a feed-in terminal, a ground terminal, a first radiation arm, and a second radiation arm.

The first and second radiation arms are arranged in symmetrically inward spiral form, share the feed-in terminal, and form a first current path and a second current path which realize the first and second operational frequencies respectively. The ground plane is coupled to the ground terminal and disposed with respect to the antenna body.

In rejecting claim 1, the Office Action points to the disclosure of Fang et al. as allegedly teaching a first radiation arm and a second radiation arm, as recited in Applicant's claim 1. In particular, the Office Action relies on radiating devices 210A in FIG. 2A and 210B in FIG. 2B of Fang et al. as being the claimed first and second radiation arms, respectively. However, what Fang et al. actually disclose in FIGS. 2A and 2B are two independent different antenna pattern design examples (210A and 210B) of the radiating device of a dual-frequency planar inverted-F antenna (column 2, lines 31-62), rather than two radiation arms of an antenna body as Applicant's claim 1 requires. There is no disclosure or suggestion by Fang et al. of using the two independent radiating devices 210A and 210B to form an antenna body, as Applicant's claim 1 requires. In contrast, Applicant's claim 1 discloses the antenna body including a feed-in terminal, a ground terminal, a first radiation arm, and a second radiation arm. In addition to the foregoing significant distinction, there is no disclosure or suggestion by the cited reference of the first and second radiation arms that are arranged in symmetrically inward spiral form, share the feed-in terminal, and form a first current path and a second current path which realize the first and second operational frequencies respectively, as claim 1 requires. Fang et al. (FIGS. 2A-9D; col. 2, lines 30-67 to col.7, lines 1-26) do not disclose or even suggest these features relating to radiating arms, as recited in claim 1.

As such, the structure defined in claim 1 is not disclosed in (nor is it suggested by) Fang *et al.* Therefore, claim 1 is not anticipated (or rendered obvious) by the cited reference.

Moreover, since claims 2-4 depend from claim 1, claims 2-4 also are not anticipated or rendered obvious by Fang *et al.* Accordingly, the rejection of claims 1-4 should be withdrawn.

Regarding Applicant's independent claim 5, the Examiner's Action points to Fang *et al.* as allegedly disclosing a portable electronic device with a first operational frequency, a second operational frequency, and a third operational frequency. It is noted that claim 5 includes features that claim 1 defines, as well as additional features (although the Examiner cites the same passages and drawings in support of the rejection). According to the above discussion on the patentability of claim 1, it is submitted that the portable electronic device as claimed in claim 5 is not disclosed (nor is it suggested) by Fang *et al.* In particular, there is no disclosure or suggestion by Fang *et al.* of an antenna body including first and second radiation arms wherein the first and second radiation arms are arranged in symmetrically inward spiral form, share the feed-in terminal, and form a first current path and a second current path which realize the first and second operational frequencies respectively, as claim 5 requires.

For at least the foregoing reasons, it is respectfully submitted that claim 5 is not anticipated (or rendered obvious) by Fang *et al.* As claims 6 and 11 depend from claim 5, claims 6 and 11 are also not anticipated or rendered obvious by Fang *et al.* Thus, it is submitted that the rejection of claims 5, 6 and 11 be withdrawn.

Claims 7-9 were tentatively rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Fang *et al.* Claims 7-9 depend from claim 5. For reasons similar to those set out in the above discussion on the patentability of independent claim 5, the cited reference fails to disclose or even suggest the features recited in claim 5. Therefore, claims 7-9 are patentable over the cited reference for at least the reasons advanced above as to the patentability of independent claim 5. The rejection of claim 7-9, therefore, should be withdrawn.


Claim 17 has been added to further protect the disclosed invention, with the support in FIGS. 1A and 1B and paragraphs [0015] and [0016] of the specification. Thus, no new matter is added to the application by the addition of this claim.

For at least the foregoing reasons, it is respectfully submitted that this application is in condition for allowance. Notice of such allowance and passing of the application to issue, are earnestly requested.

Should the Examiner feel that a conference would be helpful in expediting the prosecution of this application, the Examiner is hereby invited to contact the undersigned counsel to arrange for such an interview.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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